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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 6-8 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,543,518 to Shibata in view of U.S. Patent Application Publication No. 2002/0139629 A1 to Nogaret et al.

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Shibata disclose the construction of arrangements combining a plurality of prime mover powers, comprising:

- a driving machine (21);

- an electrical generator (20) having an electrical output and a plurality of poles, powered directly by the driving machine;

- an electrical propulsion motor (13) having a plurality of poles, powered by the output of the electrical generator, with a fixed and direct electrical connection thereto;
- and

- a propulsion device (8) operated by a mechanical connection (9 & 20) to the electrical propulsion motor;

- the electrical generator and the electrical propulsion motor having operating characteristics which are substantially the same.

However, it fails to disclose said generator and said motor being of the synchronous, permanent magnet type.

Nogaret et al. disclose the construction of an electrically propelled vehicle, comprising a synchronous, permanent magnet motor (paragraph [0027]) that can function as a generator.

It would have been obvious to one skilled in the art at the time the invention was made to use two of the synchronous, permanent magnet type machines (one configured as a motor, the other configured as a generator) disclosed by Nogaret et al. on the arrangement(s) disclosed by Shibata for the purpose of providing a system with newer, improved electronics having a larger torque capacity, more reliability, better operation and extended service life.

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5. With regards to claim 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a ratio between the number of poles in the generator and the number of poles in the propulsion motor of 3:1 to 1:20, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. With regards to claims 8, 13 and 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide:

a generator having fewer poles than the propulsion motor; a generator has six poles, yielding 50 Hz at 1000 rpms; and

a propulsion motor having 24 poles;

since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

7. With regards to claim 11, Shibata disclose the driving machine being a speed-adjustable combustion engine.

8. With regards to claim 12, Shibata disclose the engine being a diesel engine.

It must be noted that Figure 1 of Shibata disclose a gas turbine engine (7) directly connected to a generator (5) which is directly electrically connected to an electric motor (3) which mechanically drives a propulsion device (8).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,543,518 to Shibata in view of U.S. Patent Application Publication No. 2002/0139629 A 1 to Nogaret et al. as applied to claims 6-8, 11 and 12-14 above, and further in view of U.S. Patent No. 5,199,912 to Dade et al.

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Shibata in view of Nogaret et al. disclose the construction of arrangements combining a plurality of prime mover powers as disclosed above.

However, it fails to disclose the output of the electrical generator is additionally connected to a branch circuit for feeding a consumption network, a frequency converter being provided between the output and the branch circuit to provide a stable frequency from the generator.

Dade et al. disclose the construction of an electric power system for marine vehicles, comprising an electrical generator (14) connected to a plurality of branch circuits (54, 56) for feeding a consumption network (62, 64), a frequency converter (58, 60) being provided between the output and the branch circuit to provide a stable frequency from the generator.

It would have been obvious to one skilled in the art at the time the invention was made to use the branch circuits and frequency converters disclosed by Dade et al. on the arrangements disclosed by Shibata in view of Nogaret et al. for the purpose of providing regulated and modulated electrical power to the loads of the ship.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,543,518 to Shibata in view of U.S. Patent Application Publication No. 2002/0139629 A 1 to Nogaret et al. and U.S. Patent No. 5,199,912 to Dade et al. as applied to claim 9 above, and further in view of U.S. Patent No. 6,242,881 B 1 to Giordano.

Shibata in view of Nogaret et al. and Dade et al. disclose the construction of arrangements combining a plurality of prime mover powers as disclosed above.

However, it fails to disclose an additional auxiliary generator powered by the driving machine for feeding a consumption network, a frequency converter being provided between the auxiliary generator and the consumption network.

Giordano disclose the construction of an alternating current-starting device, comprising:

a driving machine (32);

an on board alternator (25); and

an auxiliary generator (34); wherein the on board alternator and the auxiliary generator are powered by the driving machine (Figure 3).

It would have been obvious to one skilled in the art at the time the invention was made to use the an additional auxiliary generator powered by the driving machine as disclosed by Giordano in the arrangements disclosed by Shibata in view of Nogaret et al. and Dade et al. for the purpose of powering various equipment with electrical current (column 5, lines 57-59).

Response to Arguments

11. Applicant's arguments filed on October 3, 2011 have been fully considered but they are not persuasive.

12. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

13. In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where

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there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, the permanent magnet machine(s) disclosed by Nogaret et al. provide (as clearly stated above) a system with newer, improved electronics having a larger torque capacity, more reliability, better operation and extended service life.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEDRO J. CUEVAS whose telephone number is (571)272-2021. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on (571)272-2098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PEDRO J CUEVAS/

Primary Examiner, Art Unit 2839

October 17, 2011